PIONEER
The Art of Entertainment

Service Manual

ORDER NO.
ARP2856

AV SURROUND AMPLIFIER

VSA-303

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	The voltage can be converted by the following method.
	VSA-303		
HB	○	AC240V	AC220-230V, ✻
HEZ	○	AC220-230V	AC240V, ✻
HL	○	AC220-230V	AC240V, ✻
SD	○	AC110V/120-127V/220V/240V	With the voltage selector

✻: Alter the wiring of the Power-supply block at the primary winding of Power transformer referring to the "Line Voltage Selection" described in Service Manual.

● For HEZ, HL and SD types, refer to page 32.

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1. EXPLODED VIEWS, PACKING AND PARTS LIST

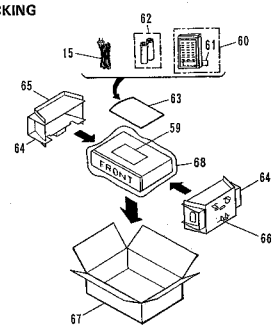
NOTES :

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

Parts List of Exterior and Packing

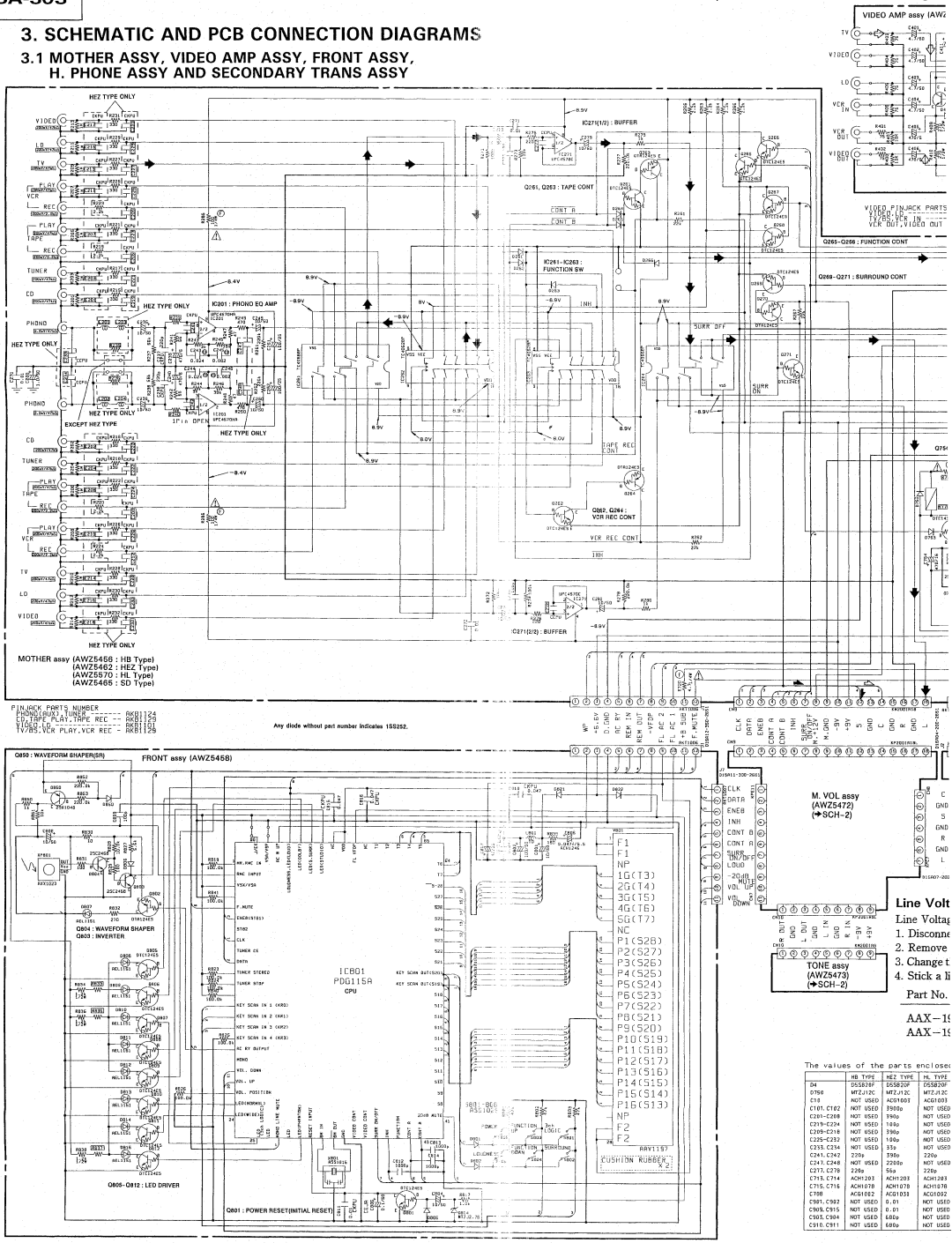
Mark	No.	Description	Parts No.
	1	FRONT PANEL	AMB2237
⚠	2	POWER TRANSISTOR (Q8)	2SA1803
⚠	3	POWER TRANSISTOR (Q3)	2SA1804
⚠	4	POWER TRANSISTOR (Q4)	2SA1804
⚠	5	POWER TRANSISTOR (Q6)	2SA1804
⚠	6	POWER TRANSISTOR (Q7)	2SC4688
⚠	7	POWER TRANSISTOR (Q1)	2SC4689
⚠	8	POWER TRANSISTOR (Q2)	2SC4689
⚠	9	POWER TRANSISTOR (Q5)	2SC4689
⚠	10	POWER TRANSFORMER (T1)	ATS1534
	11	TERMINAL SCREW	AKE−031
⚠	12	FUSE (T2.5A/250V, FU1)	AEK−512
⚠	13	FUSE (T4A/250V, FU3)	AEK−514
⚠	14	FUSE (T4A/250V, FU4)	AEK−514
⚠	15	AC POWER CORD	ADG1143
NSP	16	CHASSIS (MET)	ANA1228
	17	REAR PANEL	ANC2232
NSP	18	HEAT SINK (MET)	ANH1458
	19	INSULATOR	PNW1912
	20	VOLUME HOLDER (MTL)	ANG1813
	21	PCB HOLDER (MET)	ANG1899
	22	SPRING (FE)	ABH1097
	23	NYLON BINDER	AEC−093
NSP	24	PCB SUPPORT	AEC1286
	25	PVC SHEET	AEC1584
	26	BARRIER (PLS)	AEC1586
	27	BINDER	AEP−215
NSP	28	PCB MOULD	AMR1525
	29	SPACER (PLS)	AMR2544
	30	SCREW	ABA−298
	31	SCREW	ABA1018
	32	SCREW	ABA1082
	33	SCREW (STEEL)	ABA1095
	34	SCREW	ABA1200
	35	SCREW	BBZ30P060FZK
	36	SCREW	BPZ26P080FMC
	37	NUT	NK70FUC
	38	WASHER	WA73F118U050
	39	FL FILTER	AAK1430
	40	LED LENS (PLS)	AAK2553
	41	FL PANEL	AAK2564
	42	NAME PLATE	PAM1608
	43	ROUND KNOB M (PLS)	AAB1341
	44	ROTARY KNOB L (PLS)	AAB1343
	45	POWER BUTTON (PLS)	AAD2531
	46	HINGE BUTTON	AAD2556
	47	TOP COVER (PLS)	AME1086
	48	BONNET CASE (MET)	ANE1462
	49	POWER AMP ASSY	AWZ5471
	50	M. VOL ASSY	AWZ5472
	51	TONE ASSY	AWZ5473
NSP	52	REG ASSY	AWZ5562
	53	MOTHER ASSY	AWZ5456
	54	VIDEO AMP ASSY	AWZ5457
	55	FRONT ASSY	AWZ5458
NSP	56	H. PHONE ASSY	AWZ5459
NSP	57	SECONDARY TRANS ASSY	AWZ5608
	58	DOL. PRO. MOD. ASSY	AXQ1021
	59	OPERATING INSTRUCTIONS (English)	ARB1487
	60	REMOTE CONTROL UNIT (CU−VSA025)	AXD1382
	61	BATTERY COVER	AZA7031
NSP	62	BATTERY (R6P, AA)	AEX−010
NSP	63	LITERATURE BAG	AHG−117
	64	PAD SIDE A	AHA2026
	65	PAD SIDE B (L)	AHA2027
	66	PAD SIDE B (R)	AHA2028
	67	PACKING CASE	AHD2735
	68	PACKING SHEET	AHG1220

● PACKING



3. SCHEMATIC AND PCB CONNECTION DIAGRAMS

3.1 MOTHER ASSY, VIDEO AMP ASSY, FRONT ASSY, H. PHONE ASSY AND SECONDARY TRANS ASSY



	HB TYPE	HEZ TYPE	HL TYPE
D4	DSSB20F	DSSB20F	DSSB20F
C750	MTZJ12C	MTZJ12C	MTZJ12C
C10	NOT USED	NOT USED	ACG1001
C101, C102	NOT USED	3900p	NOT USED
C201~C208	NOT USED	390p	NOT USED
C219~C224	NOT USED	100p	NOT USED
C209~C218	NOT USED	390p	NOT USED
C225~C232	NOT USED	100p	NOT USED
C233, C234	NOT USED	33p	NOT USED
C241, C242	220p	390p	220p
C247, C248	NOT USED	2200p	NOT USED
C277, C278	220p	56p	220p
C715, C714	ACH1203	ACH1203	ACH1203
C715, C716	ACH1078	ACH1078	ACH1078
C700	ACG1002	ACG1033	ACG1002
C901, C902	NOT USED	0.01	NOT USED
C905, C915	NOT USED	0.01	NOT USED
C903, C904	NOT USED	680p	NOT USED
C910, C911	NOT USED	680p	NOT USED

SCH-1 MOTHER ASSY, VIDEO AMP ASSY, FRONT ASSY, H. PHONE ASSY, SECONDARY TRANS ASSY

Line Voltage Selection

Line Voltage can be changed by the following modification:

1. Disconnect the AC power cord.
2. Remove the cover.
3. Change the connection of the power transformer primary taps.
4. Stick a line voltage label on the rear panel.

Part No.	Description
AAX−193	220V label
AAX−192	240V label

NOTE FOR SCHEMATIC DIAGRAMS (Type 1A)

1. When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".
2. Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.
3. RESISTORS:
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. CAPACITORS:
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. COILS:
   Unit: m:mH or μH unless otherwise noted.
6. VOLTAGE AND CURRENT:
   V : Signal voltage at rated output.
   dc or −V :
   DC voltage (V) at no input signal unless otherwise noted.
   Value in ( ) is DC voltage at rated power.
   mA or − mA :
   DC current at no input signal unless otherwise noted.
7. OTHERS:
   ⊕ or ⊖ : Adjusting point.
   ● : Measurement point.
   • The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. SCH−□ ON THE SCHEMATIC DIAGRAM:
   • SCH−□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)
9. S. SWITCHES (Underline indicates switch position):

S701	VOLTAGE SELECTOR AC110V/120−127V/220V/240V
S702	VOLTAGE SELECTOR AC110−127V/220−240V

FRONT assy

S801	DOLBY 3ch LOGIC
S802	SURROUND
S803	FUNCTION UP
S804	FUNCTION DOWN
S805	POWER
S806	LOUDNESS

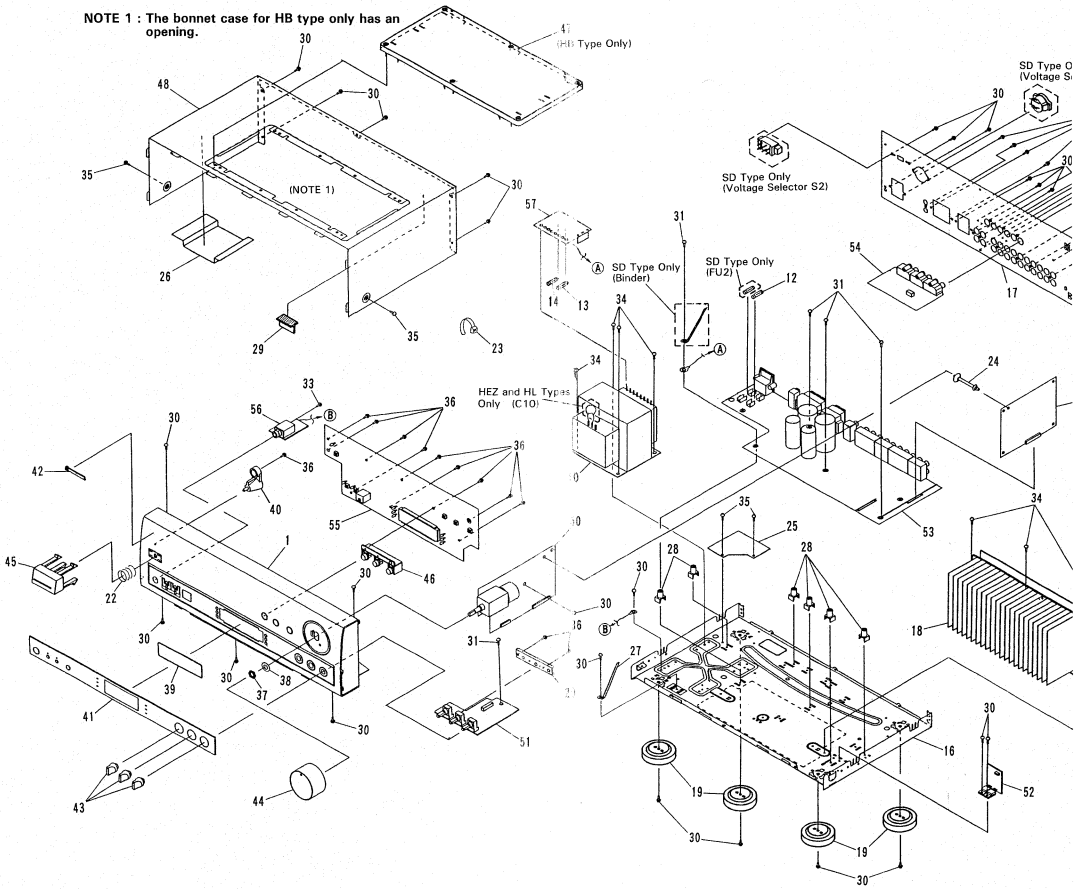
of the parts enclosed with □ indicate the following:

TYPE	HEZ TYPE	HL TYPE	SD TYPE
S820F	DSS820F	DSS820F	DSS820F
Z,J12C	MTZJ12C	MTZJ12C	MTZJ12C
T USED	ACQ1003	ACQ1003	NOT USED
T USED	3300p	NOT USED	NOT USED
T USED	390p	NOT USED	NOT USED
T USED	100p	NOT USED	NOT USED
T USED	390p	NOT USED	NOT USED
T USED	100p	NOT USED	NOT USED
T USED	33p	NOT USED	NOT USED
0p	390p	220p	220p
T USED	2200p	NOT USED	NOT USED
0p	56p	220p	220p
H283	ACH1203	ACH1203	ACH1203
H078	ACH1078	ACH1078	ACH1078
Q1082	ACQ1030	ACQ1082	ACQ1082
T USED	0.01	NOT USED	NOT USED
T USED	0.01	NOT USED	NOT USED
T USED	680p	NOT USED	NOT USED
T USED	680p	NOT USED	NOT USED

	HB TYPE	HEZ TYPE	HL TYPE	SD TYPE
R2	NOT USED	10	NOT USED	NOT USED
R101, R102	NOT USED	680 1W	NOT USED	NOT USED
R208	NOT USED	NOT USED	NOT USED	NOT USED
R235, R236	NOT USED	1.2k	NOT USED	NOT USED
R239, R240	100	330	100	100
R701, R702	4.7 2W	4.7 2W	4.7 2W	4.7 2W
R705	1.8k 2W	1.8k 2W	1.8k 2W	1.8k 2W
R753	82k	82k	82k	82k
R756, R755	270	270	270	270
R833	1k 1/2W	1k 1/2W	1k 1/2W	1k 1/2W
R835, R837	1k 1/2W	1k 1/2W	1k 1/2W	1k 1/2W
R901−R904	JP	100 1/2W	JP	JP
R905−R908	NOT USED	10	NOT USED	NOT USED
L201−L204	JP	220uH	JP	JP
L901−L904	NOT USED	ATH−135	NOT USED	NOT USED
RY701	ASR1027	ASR1027	ASR1027	ASR1027
RY703	ASR−112	ASR−112	ASR−112	ASR−112
T701	ATT1193	ATT1193	ATT1193	ATT1193
AC INLET	AKP1133	AKP1132	AKP1132	NOT USED
AC INLET WITH OUTLET	NOT USED	NOT USED	NOT USED	AKP1125

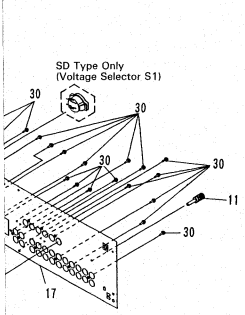
● EXTERIOR

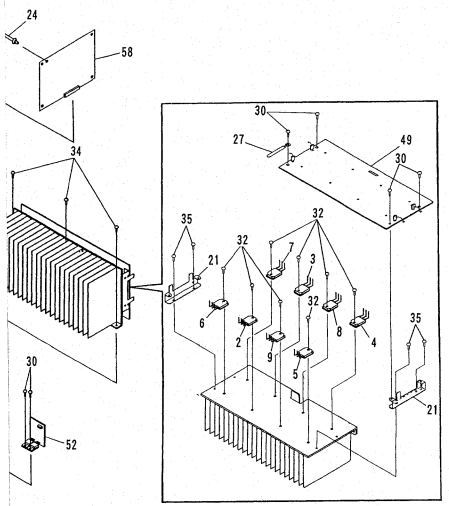
NOTE 1 : The bonnet case for HB type only has an opening.

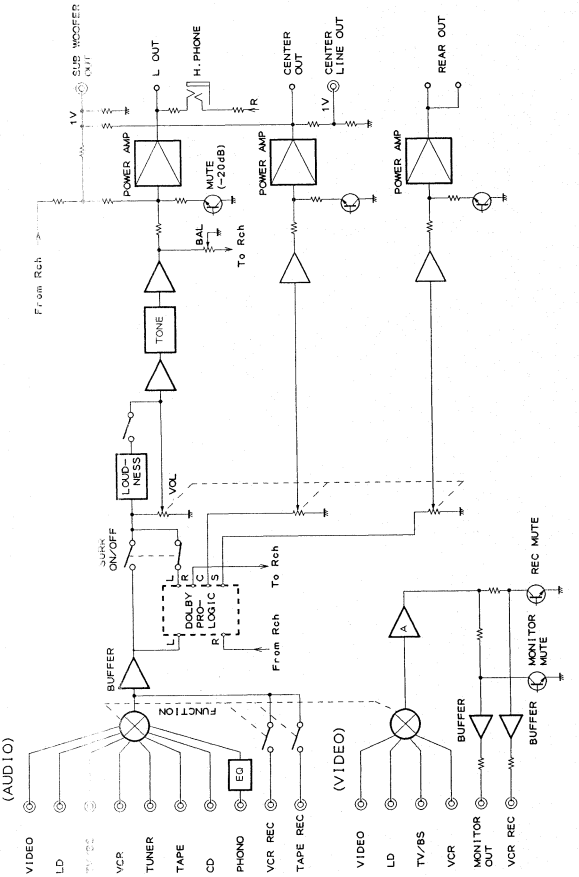


NOTE 2 : Screws adjacent to ▼ mark on the product are used for disassembly.

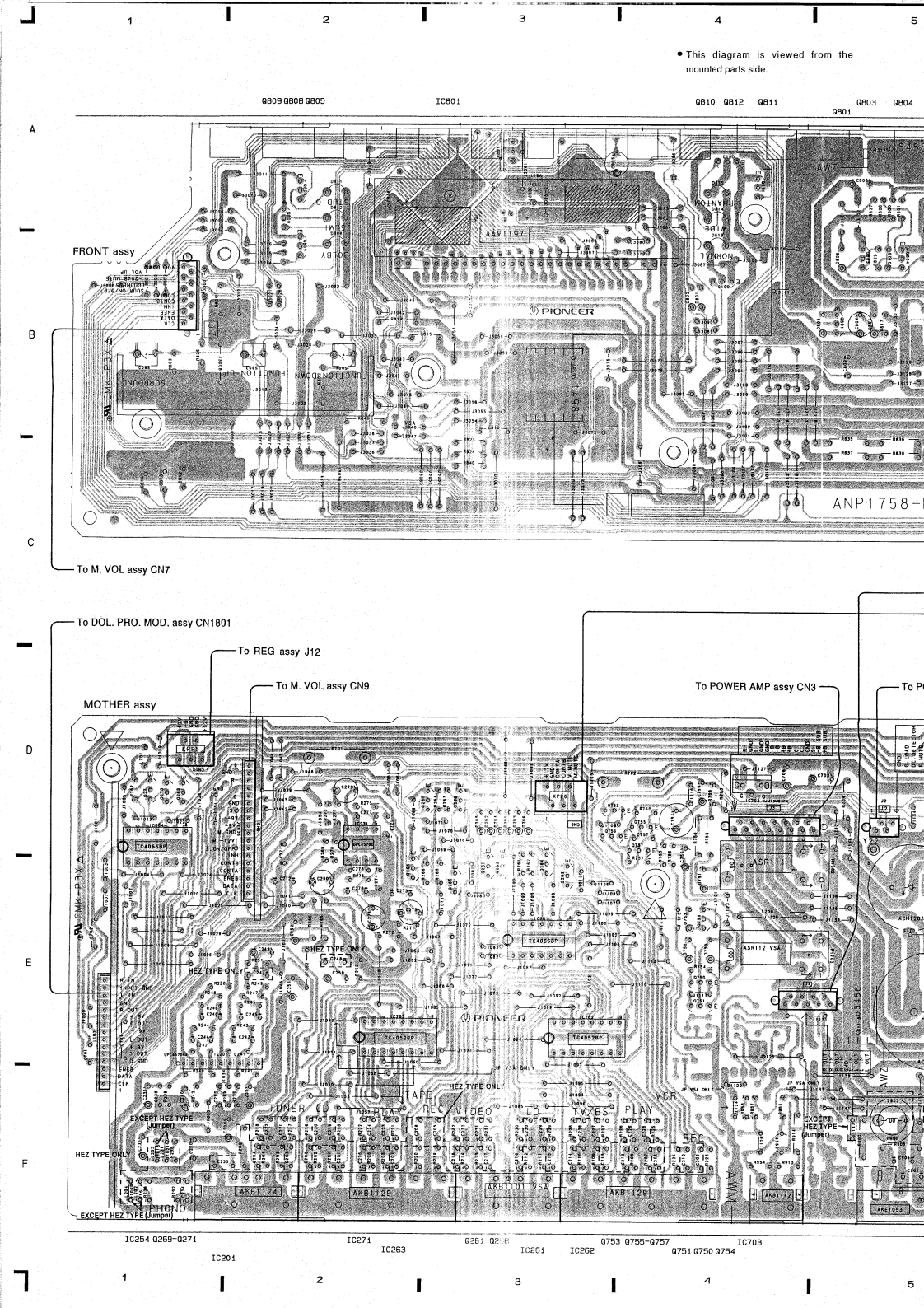
2. BLOCK DIAGRAM

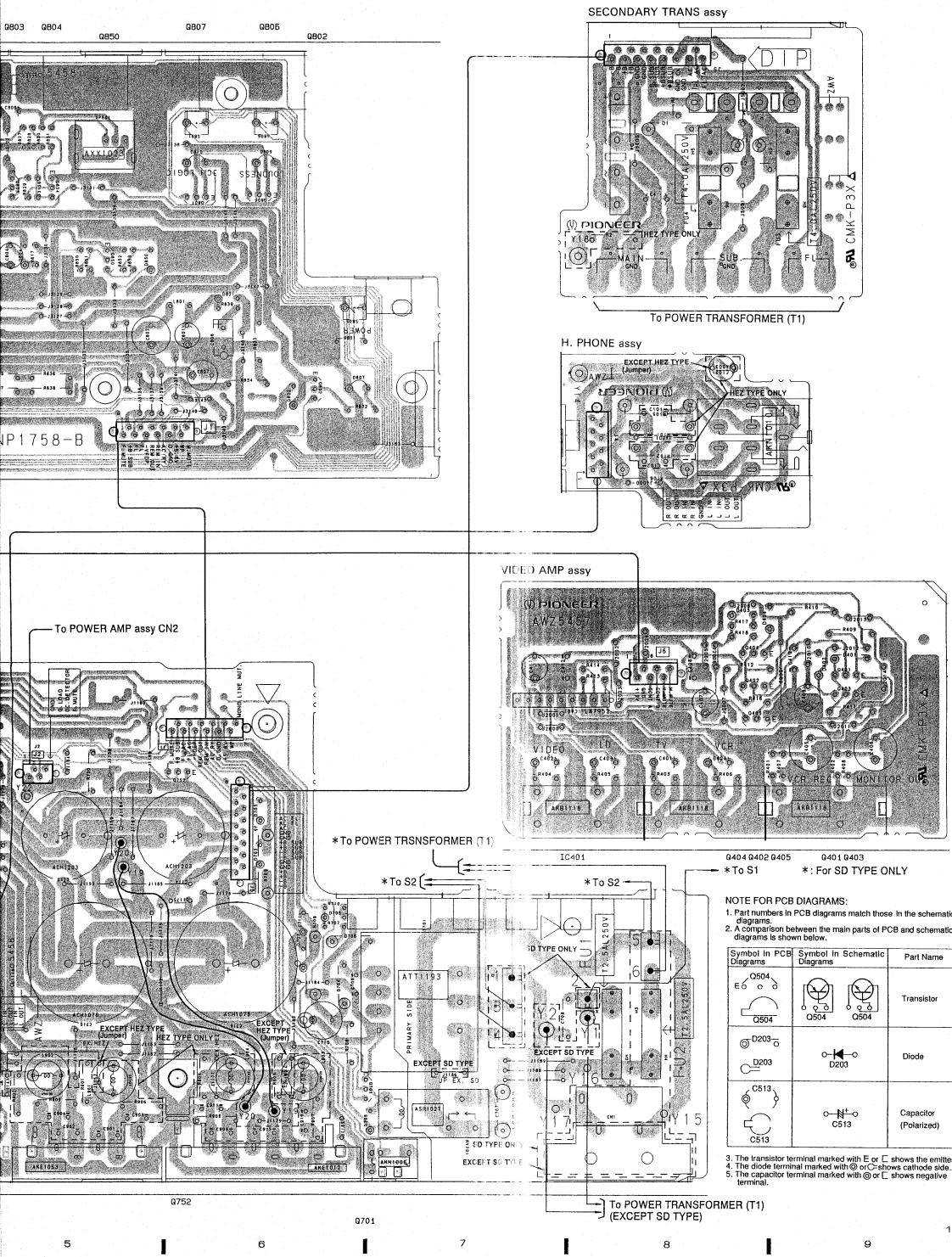






• This diagram is viewed from the mounted parts side.





NOTE FOR PCB DIAGRAMS:

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
Q504	Q504 Q504	Transistor
D203	D203	Diode
C513	C513	Capacitor (Polarized)

3. The transistor terminal marked with E or ⊏ shows the emitter.
4. The diode terminal marked with ⊕ or ⊐ shows cathode side.
5. The capacitor terminal marked with ⊕ or ⊏ shows negative terminal.

SECONDARY TRANS assy

To POWER TRANSFORMER (T1)

H. PHONE assy

VIDEO AMP assy

To POWER AMP assy CN2

*To POWER TRANSFORMER (T1)

*To S1

*To S2

*To S2

*: For SD TYPE ONLY

To POWER TRANSFORMER (T1)
(EXCEPT SD TYPE)

- This diagram is viewed from the foil side.

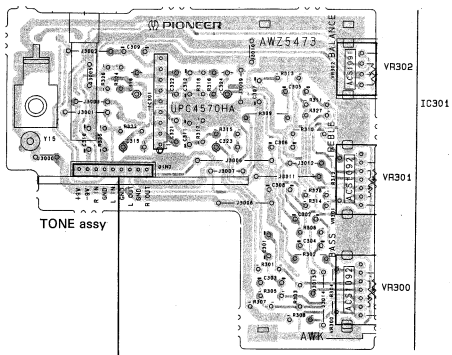
FRONT assy
To M. VOL. assy CN7
To DOL. PRO. MOD. assy CN1801
To REG assy 1I2
To M. VOL. assy CN9
To POWER AMP assy CN3
MOTHER assy
HEX TYPE ONLY
EXCEPT HEX TYPE (Jumper)

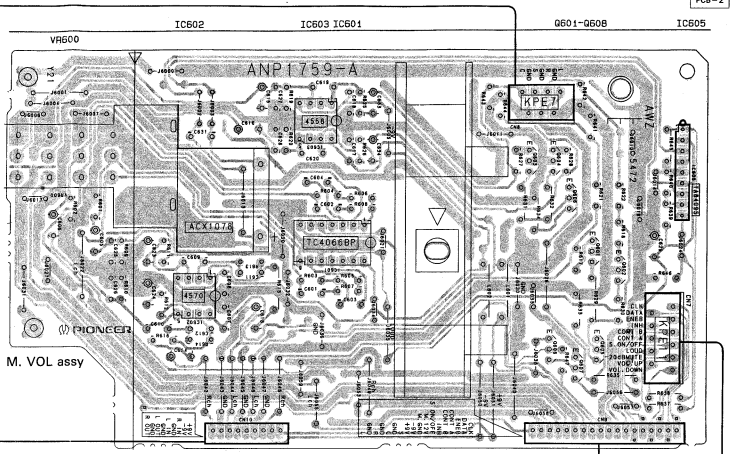
3.2 POWER AMP ASSY, M. VOL ASSY, TONE ASSY AND REG ASSY

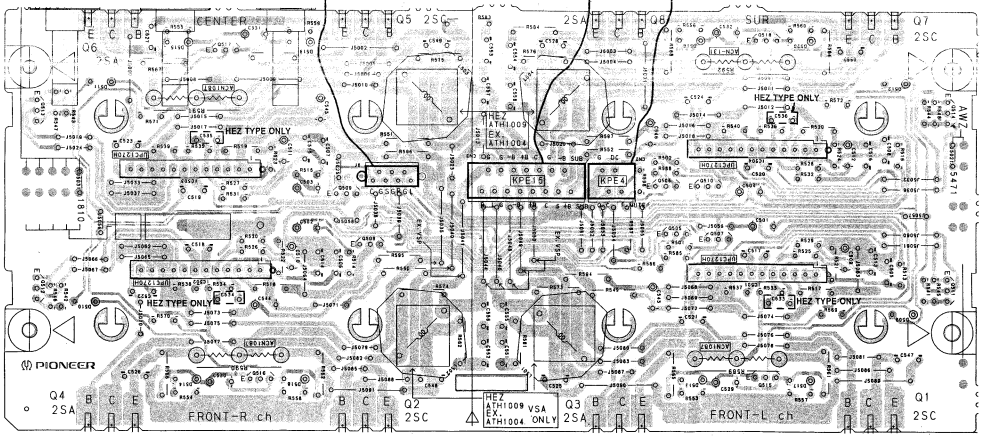
- This diagram is viewed from the foil side.

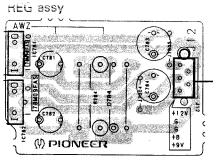
PCB-2

3.2 POWER AMP ASSY, M. VOL ASSY, TONE ASSY AND REG ASSY









To MOTHER assy J3

To MOTHER assy J2

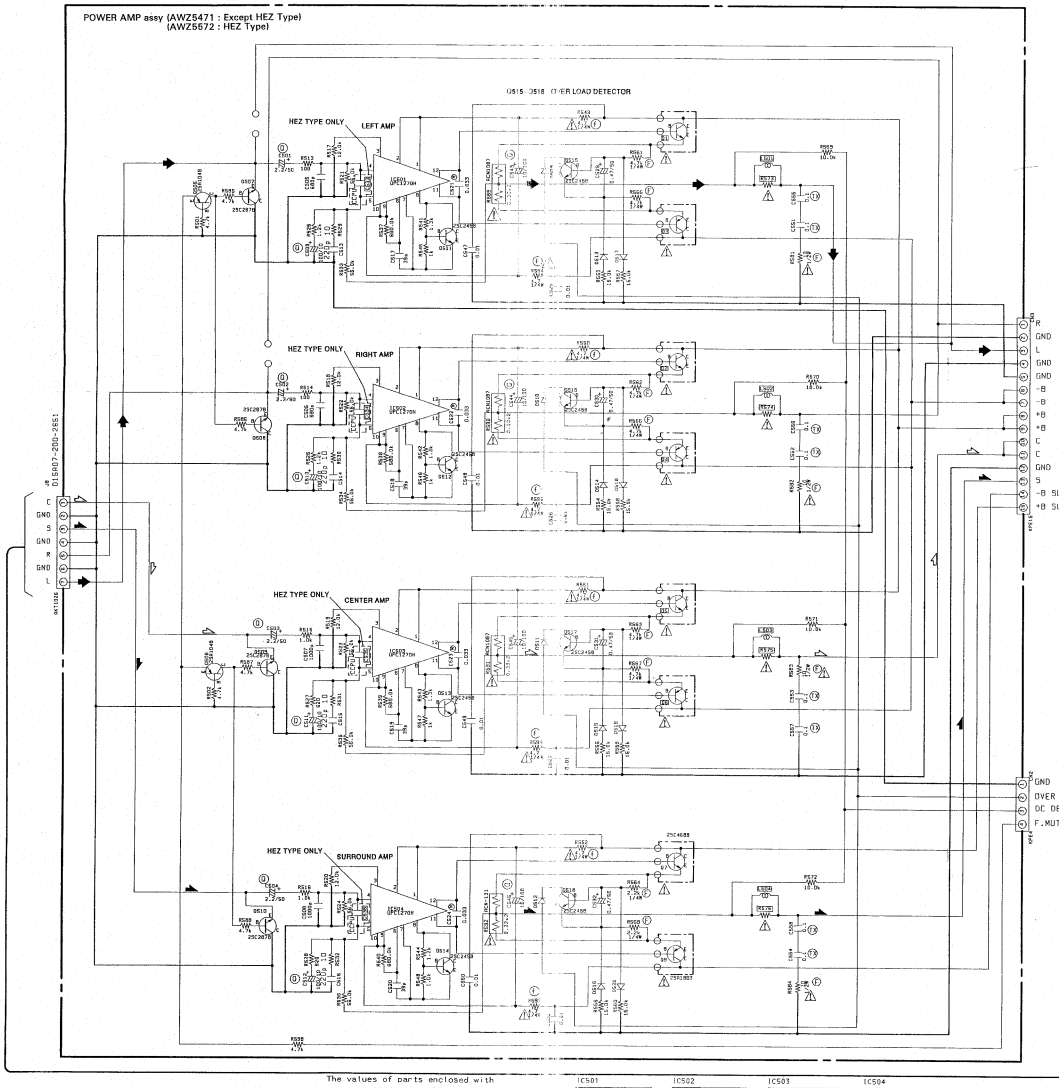
To MOTHER assy CN9

To FRONT assy J7

To MOTHER assy CN12

- This diagram is viewed from the mounted parts side.

Q513 Q512 Q6 Q4 Q517 IC503 IC502 Q516 Q5 Q509 Q508 Q2 Q8 Q3 IC504 Q518 Q505-Q507 Q510 IC501 Q515 Q7 Q1 Q514 Q511



The values of parts enclosed with ☐ indicates the following.

	HB TYPE	HEZ TYPE
Q3, Q4, Q6	2SA1804	2SA1804
Q1, Q2, Q5	2SC4689	2SC4689
C611, C612	22p	22p
C613, C614	4.7/50	4.7/50
C633, C634	NOT USED	47p
C635, C636	NOT USED	47p
C620	220p	220p
R573, R574	1Ω	1Ω
R575, R576	1Ω	1Ω
R611, R612	1.8k	1.8k
R613, R614	22k	22k
R615, R616	1k	1k
R617, R618	110	110
R621, R622	470	470
R781	6.8 2W	6.8 2W
R782, R784	27 2W	27 2W
L581, L582	ATH1004	ATH1009
L583, L584	ATH1004	ATH1009

IC501

Pin No.	Voltage [V]
1	35.7
2	35.7
3	29.5
4	143.6m
5	143.8m
6	-34.0
7	-1.0
8	0.5
9	-35.7
10	-35.7
11	-0.5
12	0.5

IC502

Pin No.	Voltage [V]
1	35.7
2	35.7
3	29.5
4	148.7m
5	148.0m
6	-34.0
7	-1.0
8	0.5
9	-35.7
10	-35.7
11	-0.5
12	0.5

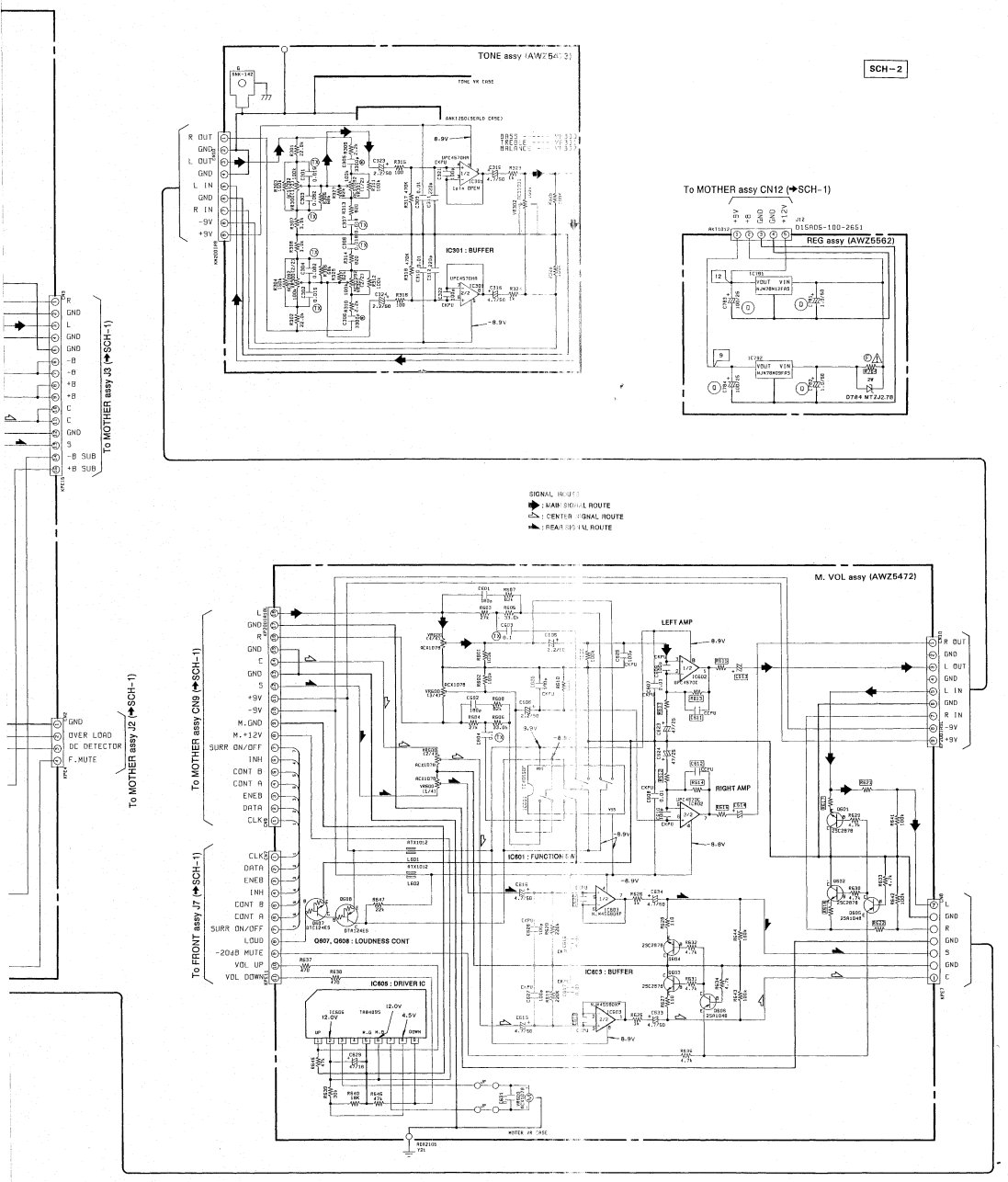
IC503

Pin No.	Voltage [V]
1	35.7
2	35.7
3	29.5
4	143.3m
5	143.0m
6	-34.0
7	-1.0
8	0.5
9	-35.7
10	-35.7
11	-0.5
12	0.5

IC504

Pin No.	Voltage [V]
1	29.4
2	29.4
3	23.3
4	144.9m
5	145.8m
6	-28.9
7	-1.0
8	0.5
9	-30.6
10	-30.5
11	-0.5
12	0.5

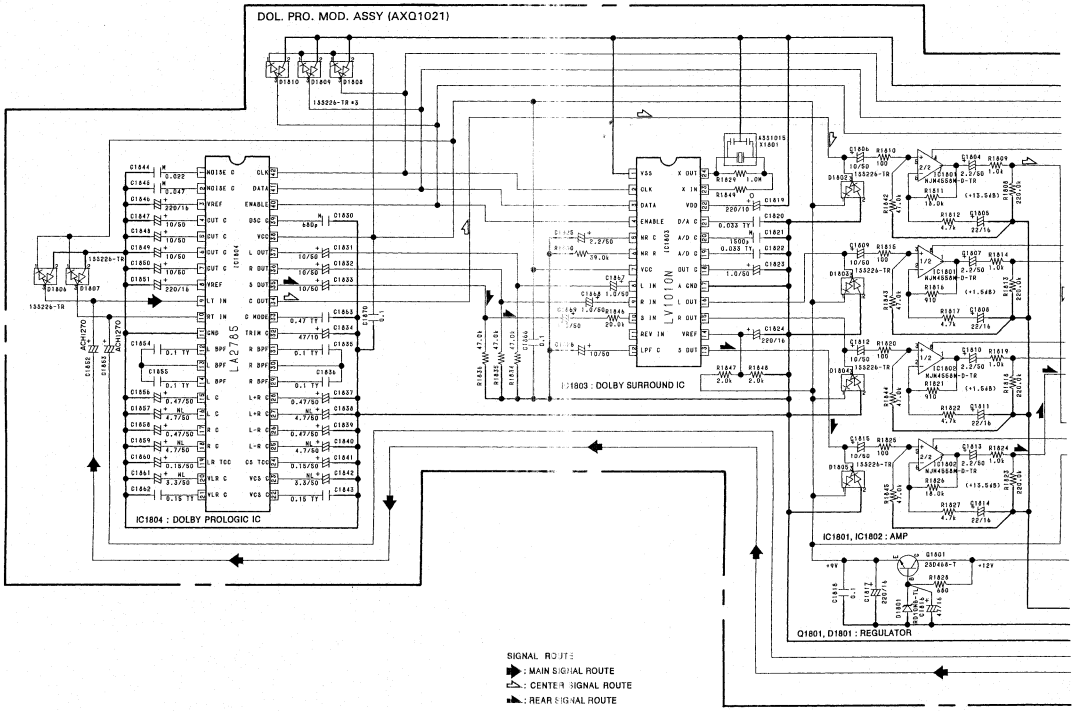
SCH – 2 POWER AMP ASSY, M. VOL ASSY, TONE ASSY, REG ASSY



POWER AMP ASSY, M. VOL ASSY,
TONE ASSY, REG ASSY

SCH-2

3.3 DOL. PRO. MOD. ASSY


DOL. PRO. MOD. ASSY (AXQ1021)
IC1804 : DOLBY PROLOGIC IC
IC1803 : DOLBY SURROUND IC
IC1801, IC1802 : AMP
Q1801, D1801 : REGULATOR
SIGNAL ROUTE
: MAIN SIGNAL ROUTE
: CENTER SIGNAL ROUTE
: REAR SIGNAL ROUTE

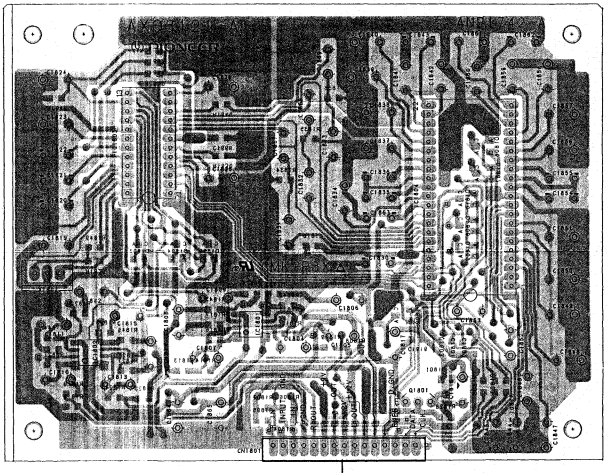
SCH−3 DOL. PRO. MOD. ASSY

PCB – 3

A

IC1802 IC1803 IC1801 Q1801 IC1804

DOL. PRO. MOD. ASSY



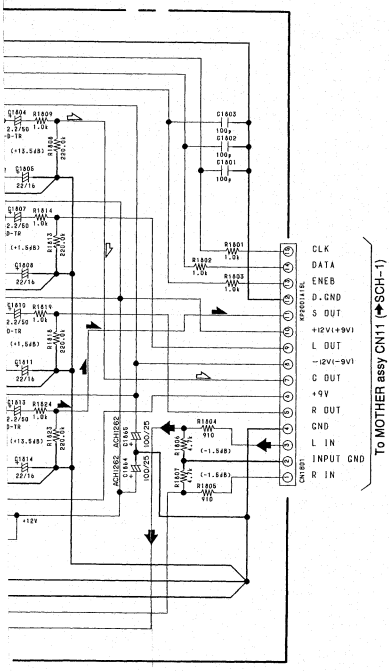
To MOTHER assy CN11

- This diagram is viewed from the pink colored foil side.
- This PCB is double sided.

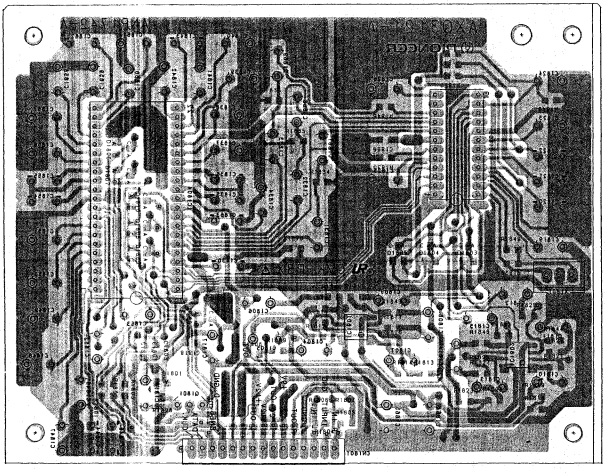
B

C

SCH – 3



D



E

- This diagram is viewed from the gray colored foil side.
- This PCB is double sided.

F

DOL. PRO. MOD. ASSY **SCH – 3**

4. PCB PARTS LIST

NOTES :

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω → 56 × 10¹ → 561 ····· RD1/8PM 5 6 1 J
47kΩ → 47 × 10³ → 473 ····· RD1/4PS 4 7 3 J
0.5Ω → 0R5 ····· RN2H 0 R 5 K
1Ω → 010 ····· RS1P 0 1 0 K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ → 562 × 10¹ → 5621 ····· RM1/4PC 5 6 2 1 F

Mark	No.	Description	Parts No.
LIST OF ASSEMBLIES			
NSP	AF ASSY		AWK1610
	├POWER AMP ASSY		AWZ5471
	├M. VOL ASSY		AWZ5472
	├TONE ASSY		AWZ5473
NSP	└REG ASSY		AWZ5562
NSP	MAIN ASSY		AWM1498
	├MOTHER ASSY		AWZ5456
	├VIDEO AMP ASSY		AWZ5457
	├FRONT ASSY		AWZ5458
NSP	├H. PHONE ASSY		AWZ5459
NSP	└SECONDARY TRANS ASSY		AWZ5608
	DOL. PRO. MOD. ASSY		AXQ1021
POWER AMP ASSY			
SEMICONDUCTORS			
	IC501−IC504		UPC1270H
	Q505, Q506		2SA1048
	Q511−Q518		2SC2458
	Q507−Q510		2SC2878
	D509−D520		1SS252
COILS AND FILTERS			
	L501−L504 (0.7UH)		ATH1004
CAPACITORS			
	C517−C520		CCCSL390J50
	C545		CEAS100M100
	C529−C532		CBASR47M50
	C543, C544, C546		CEHAQ100M2A
	C509−C512		CEHAQ101M10
	C501−C504		CEHAQ2R2M50
	C551−C558		CFTXA104J50
	C507, C508		CKCYB102K50
	C505, C506		CKCYB681K50
	C525−C528, C547−C550		CKCYF163Z50
	C513−C516		CKMYB221K50
	C521−C524		CQMA333J50
RESISTORS			
⚠	R592 (0.22, 2W)		ACN−131
⚠	R589−R591 (0.33, 5W)		ACN1087
⚠	R581−R584		RD1/2PMF100J
⚠	R573−R576		RD1/4PMF100J
⚠	R564, R568		RD1/4PMF222J
⚠	R561−R563, R565−R567		RD1/4PMF472J
⚠	R549−R552, R594−R597		RFA1/4PS4R7J
	Other Resistors		RD1/8PM□□□J
OTHERS			
	CN3 CONNECTOR (15P)		KPE15
	CN2 CONNECTOR (4P)		KPE4
M.VOL ASSY			
SEMICONDUCTORS			
	IC603		NJM4558DXP
	IC605		TA8409S
	IC601		TC4066BF
	IC602		UPC4570C
	Q605, Q606		2SA1048
	Q601−Q604		2SC2878
	Q608		DTA124ES
	Q607		DTC124ES
COILS AND FILTERS			
	L601, L602		ATX1012
CAPACITORS			
	C601, C602		CCCSL181J50
	C611, C612		CCPUSL220J50
	C605, C606		CEAS2R2M50
	C629		CEAS470M16
	C623, C624		CEAS470M25
	C613−C616, C633, C634		CBAS4R7M50
	C603, C604		CFTXA104J50
	C631		CKCYX104M25
	C609, C610, C619, C625−C628		CKPUYB101K50
	C630		CKPUYB221K50
	C607, C608, C617, C618		CKPUYF103Z25
RESISTORS			
	VR600 (100K−A5+4)		ACX1078
	Other Resistors		RD1/8PM□□□J
OTHERS			
	CN7 CONNECTOR (11P)		KPE11
	CN8 CONNECTOR (7P)		KPE7

Mark	No.	Description	Parts No.
TONE ASSY			
SEMICONDUCTORS			
	IC301		UPC4570HA
CAPACITORS			
	C311, C312		CCCSL221J50
	C323, C324		CEAS2R2M50
	C315, C316		CEAS4R7M50
	C301, C302		CFTXA153J50
	C307, C308		CFTXA183J50
	C303, C304		CFTXA823J50
	C309, C310		CKCYF103Z50
	C321, C322		CKPUYB101K50
	C305, C306		CQMA332J50
RESISTORS			
	VR302 (500K−B5)		ACS1091
	VR300, VR301 (100K−20A×2)		ACS1092
	Other Resistors		RD1/8PM□□□J
OTHERS			
	SHIELD CASE (MTL)		ANK1250
REG ASSY			
SEMICONDUCTORS			
	IC782		NJM78M09FAS
	IC781		NJM78M12FAS
	D784		MTZJ2.7B
CAPACITORS			
	C781, C782		CEHAQ010M50
	C783, C784		CEHAQ101M25
RESISTORS			
△	R784		RS2LMF270J
MOTHER ASSY			
SEMICONDUCTORS			
	IC703		NJM79M09FA
	IC262, IC263		TC4052BP
	IC261, IC264		TC4066BP
	IC271		UPC4570C
	IC201		UPC4570HA
	Q757		2SA1048
	Q750, Q751, Q755, Q758		2SC2458
	Q263, Q264, Q270		DTA124ES
	Q261, Q262, Q265−Q269, Q271		DTC124ES
	Q752, Q753		DTC124ES
	Q701, Q754		DTC143ES
	D261−D266, D705, D751−D753		1SS252
	D750		MTZJ12C
	D702		MTZJ18B
	D703		MTZJ3.9B
	D708		MTZJ5.6A
	D707		MTZJ5.6C
	D704, D706		S5566
COILS AND FILTERS			
	L700		ATX1012
	L701		LAU220K
TRANSFORMERS			
△	T701		ATT1193

Mark	No.	Description	Parts No.
SWITCHES AND RELAYS			
	RY702		ASR−111
	RY703		ASR−113
△	RY701		ASR1027
CAPACITORS			
△	C707, C768 (0.01/400V)		ACG1002
	C715, C716 (10000/50V)		ACH1078
	C713, C714 (4700/42)		ACH1203
	C275, C276		CCSL101J50
	C951		CEANP010M50
	C200, C703		CEAS010M50
	C235, C236, C249, C250		CEAS100M50
	C273, C274, C279, C280		CEAS100M50
	C756		CEAS101M16
	C251, C252, C706		CEAS101M25
	C711		CEAS470M10
	C755		CEAS470M50
	C754		CEAS471M16
	C710		CEAS471M25
	C239, C240		CEAS471M6
	C243, C244		CFTXA243J50
	C245, C246		CFTXA823J50
	C270−C272		CKCYB103K50
	C709		CKCYX104M25
	C237, C238, C241, C242		CKPUYB221K50
	C277, C278		CKPUYB221K50
	C701, C702, C704, C757		CKPUYF103Z25
RESISTORS			
	R708		RD1/2PM220J
	R914		RD1/4PM102J
△	R285, R286		RD1/4PMF101J
△	R704		RFA1/4PS221J
△	R758, R759		RFA1/4PS271J
△	R703, R720		RFA1/4PS4R7J
△	R709		RS2LMF121J
△	R705		RS2LMF182J
△	R701, R702		RS2LMF4R7J
	Other Resistors		RD1/8PM□□□J
OTHERS			
	PIN JACK (4P) (VIDEO, LD)		AKB1101
	PIN JACK (4P) [PHONO (AUX), TUNER]		AKB1124
	CN8415 PIN JACK (6P) (CD, TAPE PLAY/REC, TV/BS, VCR PLAY/REC)		AKB1129
	CN8416 PIN JACK (2P) (CENTER PREOUT, SUB WOOFER OUT)		AKB1142
	SPEAKER TERMINAL 4−P		AKE1012
	CN8427 SPEAKER TERMINAL 6−P		AKE1053
	CN8418 JACK (REMOTE IN/OUT)		AKN1006
△	CN1 AC INLET (2P)		AKP1133
	CN11 15P PLUG		EKM300B15
	CN12 CONNECTOR (5P)		KPE5
	CN6 CONNECTOR (6P)		KPE6
VIDEO AMP ASSY			
SEMICONDUCTORS			
	IC401		LA7953
	Q401, Q402		2SC2458
	Q403, Q404		2SC2878
	Q405		DTC124ES
	D401−D404		1SS252

Mark	No.	Description	Parts No.
CAPACITORS			
	C407, C409, C411		CEAS101M16
	C405, C406		CEAS471M6
	C401–C404		CEAS4R7M50
	C408, C410, C412		CKDYF473Z50
RESISTORS			
	R409, R410		RD1/2PM271J
	R411, R412		RD1/4PM151J
	Other Resistors		RD1/8PM□□□J
OTHERS			
	CN8103	PIN JACK (2P) (VIDEO, LD, TV, VCR, VCR REC, MONITOR OUT)	AKB1118

FRONT ASSY

SEMICONDUCTORS			
	IC801		PDG115A
	Q850		2SA1048
	Q803, Q804		2SC2458
	Q802		DTA124ES
	Q801, Q805–Q812		DTC124ES
	D801, D802, D805, D806		1SS252
	D821, D822, D850		1SS352
	D807–D815		AEL1151
	D804		MTZJ2.7B
COILS AND FILTERS			
	L801		LAU100K
SWITCHES AND RELAYS			
	S801–S806		ASG1029
CAPACITORS			
	C806		ACH1246
	C809		CCCSL101J50
	C801, C804, C808		CEAS100M50
	C802		CEAS101M50
	C807		CEAS470M35
	C805		CEJA0R1M50
	C812–C814		CKCYB102K50
	C811		CKPUYF103Z25
	C803, C810, C815, C816		CKPUYF473Z16
RESISTORS			
	R833, R835, R837		RD1/2PM102J
	R834, R836, R838		RD1/2PM122J
	Other Resistors		RD1/8PM□□□J
OTHERS			
	V801	FL TUBE	AAV1197
	FL SPACER		AEC1557
	X801	CRYSTAL RESONATOR	ASS1015
	REMOTE RECEIVER UNIT		AXX1023

H. PHONE ASSY

RESISTORS			
⚠	R105, R106		RS2LMF331J
OTHERS			
	JACK		AKN1010

Mark	No.	Description	Parts No.
SECONDARY TRANS ASSY			
SEMICONDUCTORS			
	D3		DSSBA20 (A)
	D4		D6SB20F
	D1, D2		S5566
CAPACITORS			
	C3, C4		CEANPR47M100
RESISTORS			
⚠	R1		RFA1/4PS220J

DOL. PRO. MOD. ASSY

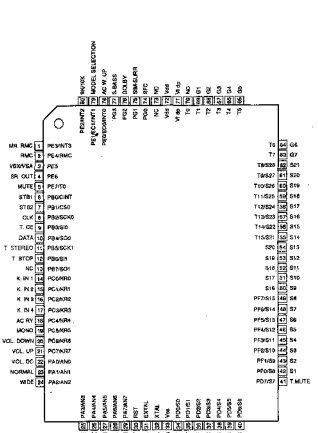
SEMICONDUCTORS			
	IC1804		LA2785
	IC1803		LV1010N
	IC1801, IC1802		NJM4558M–D
	Q1801		2SD468
	D1802–D1810		1SS226
	D1801		RD10MB
CAPACITORS			
	C1864, C1865	(100/25V)	ACH1262
	C1852, C1853	(10/50V)	ACH1270
	C1801–C1803		CCSQCEH101J50
	C1842, C1861		CEAML3R3M50
	C1838, C1840, C1857, C1859		CEANL4R7M50
	C1823, C1867–C1869		CEAS010M50
	C1806, C1809, C1812, C1815, C1826		CEAS100M50
	C1831–C1833, C1847–C1850		CEAS100M50
	C1805, C1808, C1811, C1814		CEAS220M16
	C1819		CEAS221M10
	C1817, C1824, C1846, C1851		CEAS221M16
	C1804, C1807, C1810, C1813, C1825		CEAS2R2M50
	C1834		CEAS470M10
	C1816		CEAS470M16
	C1841, C1860		CEASR15M50
	C1837, C1839, C1856, C1858		CEASR47M50
	C1835, C1836, C1854, C1855		CFTYA104J50
	C1843, C1862		CFTYA154J50
	C1820, C1822		CFTYA333J50
	C1853		CFTYA474J50
	C1818, C1866, C1870		CKSQYF104Z50
	C1821		CQMA152J50
	C1844		CQMA223J50
	C1845		CQMA473J50
	C1830		CQMA681J50
RESISTORS			
	All Resistors		RS1/10S□□□J
OTHERS			
	X1801	CRYSTAL RESONATOR	ASS1015
	CN1801	15P SOCKET	KP200IB15L

5. IC INFORMATION

- *The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.*

■ PDG115A (IC801) CPU

●Block diagram



●Pin Function

No	Pin name	I/O	Function	ACTIVE
1	PE3/INT3 MR. RMC	I	Remote control unit signal input from sub-room	L
2	PE4/RMC RMC	I	Remote control unit signal input	H
3	PE5 VSX/VSA	I	VSX/VSA, VSP select (L/H)	
4	PE6 SR. OUT	O	SR output from Remote control signal	H
5	PE7/T0 MUTE	O	MUTE	H
6	PB0/CINT STB1	O	CE (LA2785, LV1010, LV1020) output for SURROUND IC	L
7	PB1/CS0 STB2	O	STROBE output for function IC	H
8	PB2/SCK0 CLK	O	CLOCK output	
9	PB3/SI0 T. OE	O	PLL IC (LLM7001) CE	H
10	PB4/SO0 DATA	O	DATA output	
11	PB5/SCK1 T. STEREO	I	TUNER STEREO ON/OFF	L
12	PB6/SI1 T. STOP	I	TUNED input	L
13	PB7/SO1 NC		NC	
14	PC0/KR0 K. IN 1	I	KEY scan input 1	H
15	PC1/KR1 K. IN 2	I	KEY scan input 2	H
16	PC2/KR2 K. IN 3	I	KEY scan input 3	H
17	PC3/KR3 K. IN 4	I	KEY scan input 4	H
18	PC4/KR4 AC RY	O	AC relay output	H
19	PC5/KR5 MONO	O	FM MONO	H
20	PC6/KR6 VOL. DOWN	O	VOLUME DOWN	H

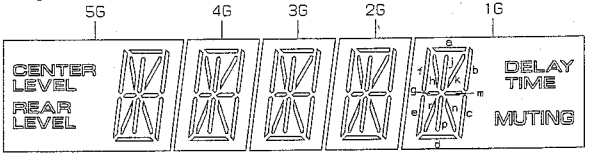
21	PC7/KR7 VOL. UP	O	VOLUME UP	H
22	PA0/AN0 VOL. DC	I	VOLUME position selection	
23	PA1/AN1 NORMAL	O	CENTER MODE display (NORMAL)	H
24	PA2/AN2 WIDE	O	CENTER MODE display (WIDE)	H
25	PA3/AN3 DANCE	O	VSX : SFC MODE display (DANCE) VSA, VSP : SURR MODE display (3CH LOGIC)	H
26	PA4/AN4 JAZZ	O	SFC MODE display (JAZZ)	H
27	PA5/AN5 THEATER	O	VSX : SFC MODE display (THATER) VSA, VSP : MONO OUT MUTE	H L
28	PA6/AN6 HALL	O	SFC MODE display (HALL)	H
29	PA7/AN7 PHANTOM	O	CENTER MODE display (PHANTOM)	H
30	RST RESET	I	RESET input	↑
31	EXTAL EXTAL	I	oscillator 8MHz	
32	XTAL XTAL	O		
33	Vss Vss		GND	
34	PD0/S0 VIDEO CONT	O	VIDEO CONTROL	
35	PD1/S1 VIDEO CONT	O	VIDEO CONTROL	
36	PD2/S2 SURR ON/OFF	O	SURROUND ON/OFF	H
37	PD3/S3 VSA FUNC	O	VSA, VSP FUNCTION (INH A)	H
38	PD4/S4 VSA FUNC	O	VSA, VSP FUNCTION (INH V)	H
39	PD5/S5 VSA FUNC	O	VSA, VSP FUNCTION (A)	H
40	PD6/S6 VSA FUNC	O	VSA, VSP FUNCTION (B)	H
41	PD7/S7 T. MUTE	O	VSX : mute for TUNER VSA, VSP : -20dB MUTE	H
42	PF0/S8 S1/ K. OUT1	O	FL segment output1/KEY scan output1	H
43	PF1/S9 S2/ K. OUT2	O	FL segment output2/KEY scan output2	H
44	PF2/S10 S3/K. OUT3	O	FL segment output3/KEY scan output3	H
45	PF3/S11 S4/K. OUT4	O	FL segment output4/KEY scan output4	H
46	PF4/S12 S5/K. OUT5	O	FL segment output5/KEY scan output5	H
47	PF5/S13 S6/K. OUT6	O	FL segment output6/KEY scan output6	H
48	PF6/S14 S7/K. OUT7	O	FL segment output7/KEY scan output7	H
49	PF7/S15 S8/K. OUT8	O	FL segment output8/KEY scan output8	H
50	S16 S9/K. OUT9	O	FL segment output9/KEY scan output9	H

51	S17 S10/K. OUT10	O	FL segment output10/KEY scan output10	H
52	S18 S11/K. OUT11	O	FL segment output11/KEY scan output11	H
53	S19 S12/K. OUT12	O	FL segment output12/KEY scan output12 (VSA, VSP)	H
54	S20 S13/K. OUT13	O	FL segment output13/KEY scan output13 (VSA, VSP)	H
55	T15/S21 S14	O	FL segment output14	H
56	T14/S22 S15	O	FL segment output15	H
57	T13/S23 S16	O	FL segment output16	H
58	T12/S24 S17	O	FL segment output17	H
59	T11/S25 S18	O	FL segment output18	H
60	T10/S26 S19	O	FL segment output19	H
61	T9/S27 S20	O	FL segment output20	H
62	T8/S28 S21	O	FL segment output21	H
63	T7 G7	O	FL grid output7	H
64	T6 G6	O	FL grid output6	H
65	T5 G5	O	FL grid output5	H
66	T4 G4	O	FL grid output4	H
67	T3 G3	O	FL grid output3	H
68	T2 G2	O	FL grid output2	H
69	T1 G1	O	FL grid output1	H
70	T0 NC		NC	
71	Vf dp Vf dp		Power supply for FL	
72	Vdd Vdd		Power supply +5V	
73	NC NC		+5V	
74	PG0 SFC	O	K-112 : SURR MODE display (SFC) other than K-112 : SURR MODE display (STUDIO)	H
75	PG1 SIM-SURR	O	SURR MODE display (SUMULATED SURROUND)	H
76	PG2 DOLBY	O	SURR MODE display (DOLBY PRO LOGIC)	H
77	PG3 S-BASS	O	VSX : S-BASS ON/OFF VSA, VSP : LOUDNESS ON/OFF	H
78	PE0/EC0/INT0 AC W. UP	I	AC pulse input	
79	PE1/EC1/INT1 MODEL SELECTION	I	VSX : K-112/K-113, K-114 selection (H/L) VSA, VSP : K-119/K-152 selection (L/H)	
80	PE2/INT2 9K/10K	I	VSX : 9K/10K selection (H/L) VSA, VSP : EX/J selection (L/H)	

6. FL INFORMATION

■ AAV1197 (V801 : FRONT ASSY)

- **FL Tube**
- Grid Assignment

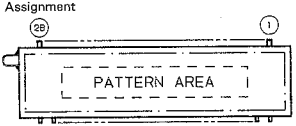


- Pin Connection

PIN NO.	28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
CONNECTION	F1 N P P P P P P P P P P P P N 5 4 3 2 1 N F1 F2 P 8 5 4 3 2 1 0 9 8 7 6 5 4 3 2 1 C 6 6 5 G P 1 1

NOTE 1) F1,F2 --- Filament
2) NP ------ No pin
3) NC ------ No connection
4) DL ------ Datum Line
5) 1G~5G --- Grid

- Pin Assignment



- Anode Connection

	5G	4G	3G	2G	1G
P1	a	a	a	a	a
P2	j	j	j	j	j
P3	h	h	h	h	h
P4	k	k	k	k	k
P5	b	b	b	b	b
P6	f	f	f	f	f
P7	m	m	m	m	m
P8	g	g	g	g	g
P9	c	c	c	c	c
P10	e	e	e	e	e
P11	r	r	r	r	r
P12	n	n	n	n	n
P13	p	p	p	p	p
P14	d	d	d	d	d
P15	CENTER LEVEL	–	–	–	DELAY TIME
P16	REAR LEVEL	–	–	–	MUTING

7. DISASSEMBLY

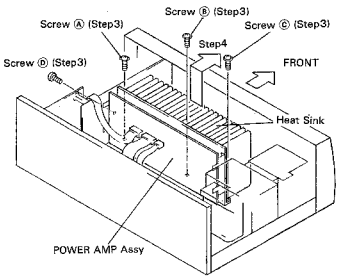
● POWER AMP ASSY

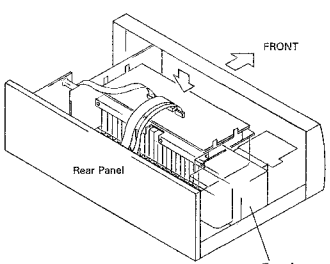
Step1. Disconnect the AC power cord.

Step2. Remove the bonnet case.

Step3. Remove the screws Ⓐ through Ⓓ, which fasten the heat sink of the POWER AMP assembly.

Step4. Rotate the assembly so that the fins of the heat sink face the bottom. Then return the assembly to its original position. (Avoid shorting the assembly by inserting insulation sheets or the like between the assembly and other hazardous assemblies and parts.)





8. FOR HEZ, HL AND SD TYPES

NOTES :

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

CONTRAST OF MISCELLANEOUS PARTS

VSA−303/HEZ, HL, SD and HB have the same construction except for the following :

Mark	Symbol & Description	Part No.				Remarks
		HB Type	HEZ Type	HL Type	SD Type	
	MOTHER assy	AWZ5456	AWZ5462	AWZ5570	AWZ5465	
	H. PHONE assy	AWZ5459	AWZ5463	AWZ5459	AWZ5459	
	SECONDARY TRANS assy	AWZ5608	AWZ5461	AWZ5608	AWZ5608	
	POWER AMP assy	AWZ5471	AWZ5572	AWZ5471	AWZ5471	
⚠	S1 Voltage selector (AC110V/120−127V/220V/240V)	.....	.....	.....	AKX−507	
⚠	S2 Voltage selector (AC110−127V/220−240V)	.....	.....	.....	AKX1004	
⚠	T1 Power transformer	ATS1534	ATS1534	ATS1534	ATS1535	
⚠	C10 Capacitor (0.01/400V)	.....	ACG1003	ACG1003	.....	
⚠	FU2 Fuse (T2.5A/250V)	.....	.....	.....	AEK−512	
⚠	AC power cord	ADG1143	ADG1127	ADG1127	ADG1129	
	Rear panel	ANC2232	ANC2229	ANC2233	ANC2230	
	Barrier	AEC1586	AEC1586	AEC1586	.....	
	FL filter	AAK1430	AAK1430	AAK2592	AAK2592	
	Bonnet case	ANE1462	ANE1514	ANE1514	ANE1514	
	Top cover	AME1086	.....	.....	.....	
	Operating instructions (English)	ARB1487	.....	ARB1487	ARB1487	
	Operating instructions (English, French, German, Italian, Dutch, Swedish, Spanish, Portuguese)	.....	ARE1317	.....	.....	
	Operating instructions (Chinese)	.....	.....	ARC1476	ARC1476	
	Operating instructions (Spanish)	.....	.....	.....	ARC1477	
	Packing case	AHD2735	AHD2735	AHD2735	AHD2736	

H. PHONE assy

AWZ5463 and AWZ5459 have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		AWZ5459	AWZ5463	
	C101, C102	.....	CGMYX392M25	
	R101, R102	.....	RS1LMF681J	

SECONDARY TRANS assy

AWZ5461 and AWZ5608 have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		AWZ5608	AWZ5461	
	R2	.....	RD1/4PM100J	

MOTHER assy

AWZ5462, AWZ5570, AWZ5465 and AWZ5456 have the same construction except for the following :

Mark	Symbol & Description	Part No.				Remarks
		AWZ5456	AWZ5462	AWZ5570	AWZ5465	
	L201–L204	.....	LAU221K	.....	.....	
	L901–L904	.....	ATH–133	.....	.....	
	C201–C218	.....	CKPUYB391K50	.....	.....	
	C219–C232	.....	CKPUYB101K50	.....	.....	
	C233, C234	.....	CCPUSL330J50	.....	.....	
	C241, C242	CKPUYB221K50	CKPUYB391K50	CKPUYB221K50	CKPUYB221K50	
	C247, C248	.....	CKCYB222K50	.....	.....	
	C277, C278	CKPUYB221K50	CCPUSL560J50	CKPUYB221K50	CKPUYB221K50	
⚠	C708	ACG1002	ACG1030	ACG1002	ACG1030	
	C901, C902, C909, C915	.....	CFTYA103J50	.....	.....	
	C903, C904, C910, C911	.....	CKCYB681K50	.....	.....	
	R200	.....	RD1/8PM100J	.....	.....	
	R235, R236	.....	RD1/8PM122J	.....	.....	
	R239, R240	RD1/8PM181J	RD1/8PM331J	RD1/8PM181J	RD1/8PM181J	
⚠	R901–R904	.....	RD1/2PMF101J	.....	.....	
⚠	R905–R908	.....	RD1/4PMF100J	.....	.....	
⚠	CN1 1P AC inlet	AKP1133	AKP1132	AKP1132	.....	
⚠	CN1 1P AC inlet with outlet	.....	.....	.....	AKP1123	

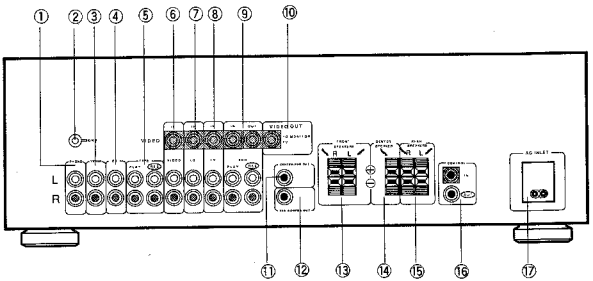
POWER AMP assy

AWZ5572 and AWZ5471 have the same construction except for the following :

Mark	Symbol & Description	Part No.		Remarks
		AWZ5471	AWZ5572	
	L501–L504	ATH1004	ATH1009	
	C533–C536	.....	CCPUSL470J50	

9. PANEL FACILITIES

REAR PANEL FACILITIES



The illustration shows the U.K. model.

① PHONO input jacks
Connect to the output cables from a turntable.

② GND terminal
Connect the turntable ground lead to this terminal. Loosen the screw, connect the ground lead, and then tighten the screw.

③ TUNER input jacks
Connect to the output jacks of an FM/AM tuner.

④ CD input jacks
Connect to the output jacks of a compact disc player.

⑤ TAPE/PLAY jacks
REC:
Connect to recording input jacks of cassette deck.
PLAY:
Connect to playback jacks of cassette deck.

⑥ VIDEO jacks(input)
Connect the output jacks of video components. For example, connect a playback-only VCR or a video camera.

⑦ LD input jacks
Connect to an LD player's output jacks(audio, video).

⑧ TV jacks
Use these jacks if you wish to connect a TV tuner having both video and audio outputs.

⑨ VCR IN/OUT jacks
For connection of first VCR.
If the VCR is equipped with S-VIDEO inputs and outputs,connection to the S-IN and S-OUT jacks is also possible.

VIDEO OUT:
Connect to VCR video input jacks.
VIDEO IN:
Connect to VCR video output jacks.
AUDIO OUT:
Connect to VCR audio input jacks.
AUDIO IN:
Connect to VCR audio output jacks.

⑩ VIDEO OUT(TO MONITOR TV)jack
Connect to a monitor TV.

⑪ CENTER PRE OUT jacks
When using the center speaker with another amplifier,connect this to the amplifiers audio input. And when using the TV's built-in speakers as the center speaker, connect this to the TV's audio input.

⑫ SUB WOOFER OUT jack
If you want to boost the surround center channel low frequencies, or you want to use the unit in a 3D system, connect to a center woofer power amp. Frequencies above about 100Hz are cut at 6dB/oct.

⑬ FRONT SPEAKERS terminals
Connect to the first set of speakers, use speakers with impedance of 4Ω-16Ω.

⑭ CENTER SPEAKER terminals
Connect the center speaker to these terminals. Use center speakers with impedance of 8Ω-16Ω.

⑮ REAR SPEAKERS terminals
Connect the rear speakers to these terminals. Use rear speakers with impedance of 8Ω-16Ω.

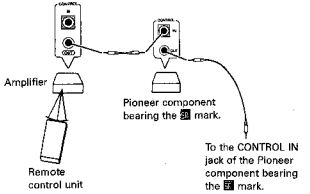
⑯ CONTROL IN/OUT jacks

IN: Connect this jack to other Pioneer components (main unit or remote control unit) when using those components to control this unit.

OUT: Connect this jack to other Pioneer components when using the remote control of this unit to control the other components.

NOTE:

The receiver's remote sensor does not function when a plug is inserted in the IN jack. To operate, point the remote control unit at the remote sensor on the component to which the receiver's IN jack is connected.



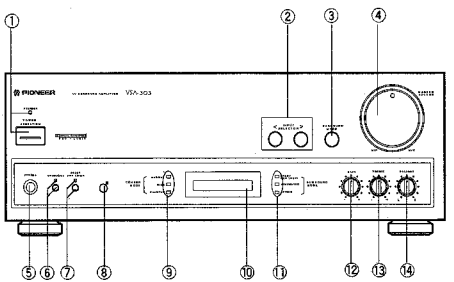
⑰ AC INLET jack

Connect power cord to here and on AC outlet of an audio timer. If you are going to be away from home a long period of time, disconnect the unit from wall socket.

POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a peace of furniture, etc, on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

FRONT PANEL FACILITIES



① POWER STANDBY/ON switch/STANDBY indicator

This is the switch for electric power.

ON: When set to the ON position, power is supplied and the unit becomes operational.

STANDBY: When set to STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

The STANDBY indicator lights when the power is STANDBY, and goes out during ON.

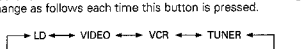
[Timer ON/OFF possible]

When the unit is switched ON, ON/OFF control can be performed by means of the optional timer.

NOTE:

When the power is initially turned ON, muting will be applied to prevent sound from being output for about 6 seconds.

② INPUT SELECTOR buttons
Use this button to select the desired source. The setting change as follows each time this button is pressed.



LD : Press when performing playback on an LD player.
VIDEO : Press when performing playback on a VCR connected to VIDEO jack.
VCR : Press when performing playback on a video cassette recorder.
TUNER : Press when listening to FM/AM broadcasts.
CD : Press when playing compact discs on a CD player.
PHONO : Press when playing records on a turntable.
TAPE : Press when performing playback on a cassette deck.
TV : Press when using a TV tuner connected to the TV jacks.

③ SURROUND MODE selector buttons

④ MASTER VOLUME control
Use it to simultaneously adjust the sound volume from the front, center and rear speakers.

⑤ PHONES jack
Connect the plug on your headphones to this jack. Set all SPEAKERS A and B switches to OFF if you want to cut the sound from speakers and listen to it only through the headphones.

⑥ LOUDNESS button/indicator
use when listening at low volume levels.
ON:
The indicator lights: Boosts low and high frequencies to give added punch to playback at low volume.
OFF:
The indicator goes off: Should normally be left in this position.

⑦ DOLBY 3CH LOGIC button
This switches on and off the DOLBY 3CH LOGIC.

⑧ Remote sensor window

⑨ CENTER MODE indicators

⑩ Display section

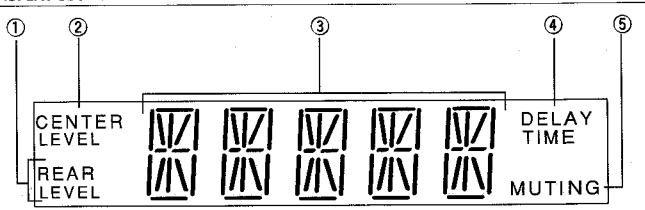
⑪ SURROUND MODE indicator

⑫ BASS control
Use to adjust the low-frequency level.
Turn clockwise to boost bass, and counterclockwise to attenuate bass.

⑬ TREBLE control
use to adjust the high-frequency level. Turn clockwise to boost treble ,and counterclockwise to attenuate treble.

⑭ BALANCE control
Use to adjust the sound volume balance between left and right speakers.
L: Decrease the sound on the right side.
R: Decrease the sound on the left side. Usually, left and right volume levels should be the same.

DISPLAY SECTION



① REAR LEVEL indicator
It light the rear level settings during adjustment.
② CENTER LEVEL indicator
It light the center level settings during adjustment.
③ Character/Level display
Displays function, center level, rear level and delay time.
④ DELAY TIME indicator
Lights during SIMULATED SURROUND or DOLBY PRO LOGIC SURROUND (when using a DELAY TIME).
⑤ MUTING indicator
Lights when MUTING is set to ON.

10. SPECIFICATIONS

Amplifier section

Continuous Power Output(in Stereo Mode)
Front ..... 50w+50W(20Hz to 20kHz,1.0%,4Ω)
Continuous Power Output(DIN)
Front ..... 65W+65W(1kHz,1.0%,4Ω)
Continuous Power Output(when using SURROUND MODE)
Rear only driven ..... 20W+20W(1kHz,1.0%,8Ω)
Front and Center driven
Front ..... 50W+50W(1kHz,1.0%,4Ω)
Center(Only with DOLBY PRO LOGIC SURROUND)
..... 50W(1kHz,1.0%,8Ω)
Dynamic Power (2Ω/4Ω/8Ω) 76W/72W/52W
Input(Sensitivity/Impedance)
PHONO MM 2.8mV/47kΩ
CD,VCR/TAPE1,TAPE2,LD 200mV/47kΩ
Phono Overload Level(T.H.D. 1.0%,1kHz)*
PHONO MM 70mV
Frequency Response
PHONO MM ..... 20Hz to 20,000Hz 0.5dB
CD, VCR, TAPE,LD ..... 10Hz to 50,000Hz $^{+3}_{-3}$dB
Output(Level/Impedance)
VCR REC,TAPE REC 200mV/2.2kΩ
CENTER PRE OUT,SUB WOOFER OUT 1V/2.2kΩ
Tone Control
BASS ..... ±8dB(100Hz)
TREBLE ..... ±8dB(10kHz)
MUTING ..... -20dB
Loudness conter100Hz/10kHz 6dB/3dB
Signal-to-Noise Ratio(IHF,short circuited, A network)
PHONO MM 83dB
CD,VCR,TAPE,LD,TV,VIDEO 102dB
Signal-to-Noise Ratio(DIN,continuous power output/50mW)
PHONO MM 71/64dB
CD,VCR,TAPE,LD,TV,VIDEO 88/66dB

Measured by Audio Spectrum Analyzer.

VIDEO Section

Input (Sensitivity/Impedance)
VCR/TAPE1,LD 1Vp-p/75Ω
Output(Level/Impedance)
VCR/TAPE1,MONITOR 1Vp-p/75Ω
Frequency Response
VCR/TAPE1,LD→MONITOR ..... 5Hz to 10MHz $^{+3}_{-3}$dB
Signal-to-Noise Ratio 63dB
Cross Talk 55dB

Miscellaneous

Power Requirements
U.K.model ..... a.c.240Volts~, 50/60Hz
Multi-voltage model ..... 110/120-127/220/240V,a.c.(switchable),50/60Hz
Power Consumption 530W
Dimensions ..... 420(W)x140(H)x295(D)mm
Weight (without package) 7.6kg

Furnished Parts

Dry Cell Batteries
size "AA" (R6P/SUM-3) 2
Remote Control Unit 1
Power Cord 1
Operating Instructions 1

NOTE:

Specifications and the design are subject to possible modifications without notice due to improvements.

MAINTENANCE OF EXTERNAL SURFACES

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surface are very dirty, wipe with a soft cloth dipped in some neutral cleanser diltted five or six times with water, and wrung out well, and then wipe a dry cloth. Do not use furniture wax or cleaners.
- Never use thinners, benzene, insecticide sprays and other chemicals on or near this unit, since these will corrode the surfaces.